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Analytical History of Heavily Indebted Poor Country (HIPC) Debt Sustainability Targets

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Abstract

This paper traces the origins of World Bank indicators of debt-distress and their employment as HIPC sustainability targets. These targets are interpreted as 'switching values', below which countries are (on average) expected to avoid debt service problems, but as such, they do not take into account that countries encounter debt service problems for a variety of reasons and at different levels of debt. It is likely that the 'true' switching value of the debt to export ratio of several HIPCs lies below the lower bound of the present target range. Regarding the 'fiscal window', the lack of analytical basis for a 280 percent target for the debt to revenue ratio is noted, and the consistency problems raised by the added 'openness-tax' condition are discussed. Moreover, the implications for economic performance of the pursuit for a sustainable debt position remain a concern. It seems uncertain whether the development needs of HIPC countries can be accommodated within sustainable debt paths, as envisioned. The paper concludes that the sustainability targets, as presently applied, are not well supported in analytical terms. The rationale for adopting an *average* target range for the debt indicators involved remains weak, and the adoption of *country-specific* targets is suggested as a way to tailor debt relief more accurately to country needs.

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Contents

1. Introduction

Central to the discussion of the Heavily Indebted Poor Country (HIPC) debt relief initiative is the concept of debt sustainability targets. These targets, and the debt analytics that underlie them, form an integral part of the analytical core of the HIPC debt initiative. As such, the IMF and the World Bank are justified in putting them on the agenda of the recently initiated HIPC Consultative Process. Evidently, the extent and timing of debt relief to any given debtor country depends very much on the stance of the key debt burden indicators as compared with the targets set out. Moreover, in the general debate on debt relief, an element of confusion and misconception seems to surround these targets in terms of their origins and economic interpretation. It has often been asserted that the World Bank and the IMF has adopted these targets in an *ad hoc* manner without basis in analysis, or that they merely reflect a particular World Bank/IMF style of 'common sense' (e.g. Verhagen, 1997). Not so.

However, as argued in this paper, while arbitrariness is certainly not in evidence, there are good reasons for examining the theoretical and empirical underpinnings of these targets, in order to help evaluate their ability to properly identify the needy countries, as well as to identify the debt relief requirements of these countries, which need not only to service foreign debt, but to grow and prosper. This paper seeks to contribute to this evaluative process by outlining the analytical history of the debt sustainability targets. In doing so, it aims to trace and assess the analytical roots of the so-called 'debt indicator approach' that serves as the foundation of the HIPC sustainability concept.

The plan of the paper is as follows. Below, section 2 briefly describes how debt sustainability targets are incorporated into the HIPC debt relief scheme, and how they relate to the debt indicator approach, which is essentially an empirical offspring of the 'debt capacity' literature in which the development aspects of debt are not explicitly dealt with. Section 3 then discusses the theoretical and empirical literature on debt sustainability, with a distinction made between the debt capacity and the development aspects of the problem. With this reference, section 4 then goes back in time, to 1989, to trace how the current debt sustainability approach evolved from the shadows of the appendixes of the World Bank's *World Debt Tables* to become a primary mover of poor country debt relief. A number of conceptual and methodological problems in this regard are highlighted. Section 5 examines the empirical rationale for adopting the present sustainability targets, looking at the export related targets and the 'fiscal window' separately. It is concluded that *country-specific*, as opposed to universal, debt sustainability targets may offer a way to tailor debt relief to country circumstances. Section 6 sums up

and concludes.

2. HIPC and Debt Sustainability Targets

Following IMF (1998), to qualify for assistance under the HIPC initiative, the debtor country under review must adopt adjustment and reform programmes supported by the IMF and the World Bank and pursue those programmes for three years (phase 1). During that time, it will continue to receive concessional assistance from donors and multilateral agencies, as well as debt relief from bilateral creditors. At the end of the first phase (the decision point), a debt sustainability analysis is carried out to determine the current debt situation of the debtor country, based on a medium-term balance-of-payments projection that assesses the debt burden of the country and its capacity to service it. If the debt ratios for that country fall within or above applicable ranges, it will be considered for special assistance. The ranges are 200-250 percent for the present value of debt to exports ratios, and 20-25 percent for debt service to export ratios.

In the case of very open economies (i.e. an export to GDP ratio of 40 percent or higher) with a high debt burden in relation to fiscal revenues, despite strong revenue collection (i.e. a revenue to GDP ratio of 20 percent or higher), the present value of debt to exports target may be set below 200 percent. In such cases, the target is set so that the present value of debt would be 280 percent of fiscal revenues at the completion point. Once eligible for support under the initiative, the debtor country must establish a further three-year track record of good performance under IMF/World Bank-supported programmes (phase 2). This period may be shortened for countries that already have a record of good performance. During this period, bilateral and commercial creditors are expected to reschedule obligations coming due, with up to 80 percent reduction in present value terms. Multilateral creditors can advance some of the assistance planned for the completion point. Lastly, at the completion point, final assistance will be provided.

As noted in the introduction, the depth of debt relief to any given country depends critically on the stance of the key debt burden indicators as compared with the targets stipulated. The economic interpretation of these targets implicitly relies on the debt indicator approach. This concept traces back to a line of economic study termed debt capacity analysis. As explained in more detail in the next section, this type of analysis employs a number of proximate measures of 'real-life' debt servicing problems (e.g. debt reschedulings or the accumulation of payments arrears), and the analytical aim is two-fold.

One is to determine the factors responsible for debt service problems, in order to design appropriate remedies in terms of policy reform.[1] The other is to find the values of these ratios at which the country 'switches' from a (debt service) performing to a non-performing debtor, in order to assess the amount of debt relief needed to exit debt servicing problems. Put differently, what is sought after, is the value of the debt or debt service to export ratio at which countries begin to accumulate arrears and request negotiations for debt relief. In the HIPC context, a sustainable debt burden is thus defined by the switching value of the ratio in question. Notice below that the targets are derived from evaluating the relationship between debt burden indicators and debt servicing performance; there is no explicit link to the investment and growth performance. And yet this aspect is (or should be) an integral part of the concept of debt sustainability.

3. Sustainability of Foreign Debt: Theory and Evidence

There are two perspectives to consider when evaluating the sustainability of foreign debt. One relates sustainability to *debt capacity* problems, involving a disruption of normal debtor-creditor relations in which the debtor is unable (or unwilling) to honour debt service obligations as they come due. Tangible evidence of such problems occurs when payment arrears accumulate and debt is rescheduled or forgiven. Analytical focus is on the determinants of debt service performance and their switching values. The other considers the problem which occurs when a country's foreign debt burden is so large as to adversely affect *economic development* (regardless of whether it is serviced in full or not). Below the theory and evidence on these two perspectives are discussed.

3.1. The Debt Capacity Perspective

The earliest literature on the debt capacity of developing countries dates back to the late 1950s and early 1960s and is mainly associated with a number of multilaterally-sponsored studies.[2] The context from which these studies grew was the rapid growth in (primarily public) international indebtedness in the post-war

[1]The debt to GNP ratio and debt and debt service ratios are usually found to be among them (as is, incidentally, the GDP growth rate, suggestion that growth-supportive debt relief policies may be twice-blessed).

[2]See, e.g. Avramovic (1958), Avramovic and Gulhati (1960), Alter (1961), Avramovic *et al.* (1964) and Gulhati (1967). These studies were all conducted under World Bank sponsorship. Surveys of the early debt capacity literature can be found in Bitterman (1973), Soesastro (1977), Aliber (1980) and McDonald (1982).

period (in which the World Bank had played an important part), and a growing concern with the repayment flows associated with this increase in international debt.[3] Since the focus of these studies was on the return flows associated with the capital requirements of poor countries, they can be viewed as a natural extension of the discussion of the macroeconomic rationale for external resource flows, as set out in the 'gap' literature.[4] Since then, and especially after the eruption of the debt crisis in 1982, the literature on debt capacity has expanded considerably, but a review of this literature suggests that the concept of debt capacity has been very difficult to pin down with any degree of precision or consensus, as is testified by the numerous approaches to the issue which can be identified.

Theoretical Issues. From a theoretical perspective, following Salop and Spitäller (1980), the issue of debt capacity is concerned with two key questions. The first asks how much money a country should borrow, given the terms and conditions attached to the money available, i.e. what is the optimal level of debt? The other addresses the looser notion of the feasibility of the borrowing process, specifically the sustainability of particular debt situations and policies. According to McDonald (1982), the approach of the *optimizing frameworks* has tended to dominate much of the earlier theoretical literature, in part because the optimizing approach was seen to be more in keeping with the economist's approach to problems of choice.[5] The leading suggestion to emerge from this line of work, not unexpectedly, is that the optimal level of debt is that at which the marginal benefit and the marginal cost of foreign borrowing are equalized. However, while this basic idea has subsequently been employed in numerous variations of the optimizing model, the approach does not provide a simple formula that would make it possible to ascertain in more operational detail the debt capacity stance of individual countries.[6]

The *non-optimizing* models take a different perspective, in that the sustainability of particular debt situations and policies are examined in light of the expected future growth path of the economy. The original non-optimizing approach was

[3]The borrowing clientele at that time included all of the war-torn economies of Western Europe and Australia as well as a host of underdeveloped countries throughout Latin America, Asia and Africa.

[4]See, e.g. Rosenstein-Rodan (1961), Fei and Paauw (1965), Balassa (1964), Chenery and Strout (1966) and Bacha (1984).

[5]Seminal studies in this tradition have been those by Bardhan (1967) and Hamada (1969), as well as subsequent studies by Hanson (1974), Feder and Regev (1975) and Feder and Just (1979).

[6]For a treatment of more recent developments in the debt optimizing literature, see the survey studies by Cohen (1993), De Aghion (1993) and Eaton (1993).

advanced in the framework of the 'growth-cum-debt' literature, in which emphasis has mainly been on foreign borrowing for investment purposes, i.e. for filling the gap between domestic investment and savings (Avramovic *et al.*, 1964; King, 1968; Solomon, 1977). The growth-cum-debt models consider debt capacity in terms of the benefits and costs of borrowing in the process of economic growth. The basic argument is that a country will maintain its capacity to service debt provided that additions to its debt over time contribute (sufficiently) to growth. A 'debt cycle' is proposed, in which the behaviour of capital flows may change over a number of stages which are closely linked to the course of economic growth and development. However, since there is no automaticity in the proposed debt-growth process, progression through the different stages requires that a number of conditions be met. Often these conditions have been merged into one single condition expressed in the context of the Harrod-Domar growth model. The condition states that, to maintain debt service capacity over time (i.e. to remain solvent), the growth rate of output should equal or exceed the cost of borrowing, measured by the rate of interest.

The merit of the growth-cum-debt model lies in its summary of the complexities of the debt-growth mechanics into a simple and readily understandable insight, namely that any debt strategy will only work, ultimately, if there *is* sufficient economic growth to support it. However, in terms of analysing debt capacity in a more specific manner, the growth-cum-debt framework suffers from a number of conceptual problems relating to its theoretical underpinnings and the rigidity of its basic assumptions (discussed in McDonald, 1982). A particular weakness is that the model focuses solely on the savings-investment gap. Yet, given that external financing will have been made available in foreign currency, it must be repaid in foreign currency, and the savings surplus must therefore somehow be converted into foreign exchange. By not considering the performance of the external sector of the borrower's economy, the growth-cum-debt model is silent on this transformation problem.

By contrast, the 'debt dynamics' approach directly addresses the issue of a borrowing country's external solvency (Simonsen, 1985; Cooper and Sachs, 1985; World Bank, 1985; Hernandez, 1988). Since debts have to be serviced with foreign exchange, the value of exports gives a more accurate impression of income than for example GDP, as it relates more directly to debt servicing ability. If, for example, there is an increase in the production of non-tradables, there is an increase in GDP, but not necessarily in the ability to service debt. Accordingly, the key feature of the debt dynamics approach is the relationship between export performance and the cost of borrowing, and the solvency condition that emerges is that for the borrower to maintain debt service capacity, the rate of growth of

exports must equal or exceed the rate of interest on the borrowed funds.

As in the case of the growth-cum-debt model, the debt dynamics framework also suffers from a number of conceptual shortcomings (see Cassen and Nissanke, 1990). Critical among these is that it assumes a time-invariant growth path for exports and the rate of interest. In reality, both variables will follow complicated time paths, and the assumption is certainly at odds with the experience of most low-income borrowers. This limits the use of the debt dynamics model for empirically assessing the sustainability of a borrower's debt path. Moreover, developments in the level of imports are not explicitly considered, a feature that also tends to undermine the applicability of the model when examining debt sustainability (Kamel, 1988).[7] This is especially the case when imports play an important macroeconomic role in the growth process of the borrower, as is evident in many low-income countries (López and Thomas, 1990, 1988).

Yet in spite of the shortcomings of the growth-cum-debt and debt dynamics frameworks, together they provide important insights into the conditions for maintaining debt service capacity. First, in the long-term, the accumulation of foreign debt has to be matched by progress in economic growth to the extent that surplus domestic resources become available for servicing interest payments, and ultimately for repaying the principal of the debt. In addition, performance in the external sector must be such that the increase in domestic surplus is matched by an increase in foreign exchange so that debt payments can be effected.

But there are limits to the practical use of these results. While the solvency conditions of the non-optimizing literature do offer an opportunity to make general judgements with respect to the sustainability of borrowing policies, it is clear that for the purpose of determining debt capacity more precisely, the term "expected path of the economy" is in practice too broad and vague. Contrary to the implicit premises of the growth-cum-debt and debt dynamics frameworks, the time paths of the main factors involved (i.e. the growth rate of output, exports and imports as well the rate of interest) are inherently difficult if not impossible to predict. From this one can perhaps better understand why the fiscal and debt management policies of many developing countries in the 1970s and early 1980s seemed so

[7] In an extended debt dynamics model, where imports are treated as an endogenous variable, Kamel (1988) suggests a stronger set of conditions for maintaining debt service capacity. Solvency will only occur if the growth rate of exports is higher than (or equal to) the rate of interest *and* also higher than the growth rate of imports *or*, when export and import growth are both below the rate of interest, if the initial indebtedness of the country is below the country's external financial potential. Applied to the sub-Saharan African experience over the 1980-89 period, Hjertholm (1991) found that the 'extended' model of debt dynamics offered a more robust explanation of actual debt service performance than did the traditional models of growth-cum-debt and debt dynamics.

misguided. The fact is that the theoretical literature has had little to offer in terms of operational guidance for the design of public borrowing policies, and reaping the benefit of insight of the empirical literature, in an ironic twist, had to await the tangible manifestations of the debt policy failures it was intended to help avoid.

Empirical Evidence (The Debt Indicator Approach). The empirical literature on debt capacity has to some extent been shaped by the peculiar analytical nature of the theoretical approaches, and the associated conceptual problems. The possible uses of foreign borrowing go beyond the role of augmenting investments and imports. Borrowing can also be used to shield consumption from fluctuations in the level of income, or to reduce the costs of adjusting to more permanent declines in income levels. Moreover, with regard to commercial borrowing, supply conditions in international markets are also a matter for concern, specifically as regards lenders' perception of sovereign risk. As correctly pointed out by McDonald (1982), for a debt situation to be sustainable, both the borrowing country and lenders must view it as such.[8]

The large empirical literature which has been produced since the early 1970s has not usually been directly applied to the findings of the theoretical literature, as these were not presented in a fashion which facilitated empirical verification.[9] Instead the bulk of the literature went about the issue 'indirectly', by observing that the debt capacity of a borrower can be more easily gauged when there are tangible problems with debt servicing. In the empirical literature debt capacity is thus seen in a context of a country's failure to service its foreign debt, and extensive use is made of a number of debt indicators and other economic variables

[8]For instance, a debt situation which is consistent with the intertemporal budget constraint of the borrower, may still be unsustainable if the supply conditions (e.g. refinancing terms or quantity rationing) are not taken into account. Because borrowers may be able to affect the terms and volume of new external financing by taking into account how their own behaviour affects the behaviour of lenders, debt capacity may be influenced by a better understanding of the decision-making of lenders and of the institutional framework of international finance (Eaton and Gersovitz, 1980, 1981a,b; Sachs and Cohen, 1982). A very recent contribution on the optimal behaviour of creditors that face 'bad debts' is found in Cohen (1995). However, taking account of such considerations, as the theoretical literature has increasingly attempted to do, has made the empirical application of this literature inherently more difficult.

[9]One exception is the study by Selowsky and Van der Tak (1986) in which, based on a target growth rate, a quantitative framework is developed for identifying a path of critical values for growth in savings and exports for a successful outcome of a growth-oriented debt policy. Another exception is Tarp (1994), who examined the path of the key variables emerging from the growth-cum-debt and debt dynamics frameworks for ten developing countries from 1970 onto the outbreak of the debt crisis in 1982.

to explain this failure, and to predict future problems. This applied literature is often referred to as the 'indicator approach' to debt capacity (e.g. McDonald, 1982; Soesastro, 1977).

Within the empirical literature, two basic perspectives exist on the issue of debt capacity, namely that of the borrower and that of the creditor. In case of the former, attention is on the characteristics of the debtor country's economy as they relate to the ability to service foreign debt (i.e. debt sustainability). The latter is concerned with the supply of external financing to developing countries, and as such looks at the matter from the perspective of creditors. The creditor perspective mainly derives its relevance *vis-á-vis* borrowing from international capital markets. Much of the literature on the loan supply issue has therefore been generated in response to the growing presence (in the eighties) of commercial debt, and the associated notion of credit rationing. The lender is taken to be a commercial lender, not an official one such as governments or multilateral aid agencies. As this approach examines the solvency issue from the viewpoint of the market, it introduces, in addition to the issue of payment capacity, a concern for the *willingness* of the debtor to sustain repayment of debt, using the concepts of 'creditworthiness' and 'country risk'.[10]

The evolution of the empirical literature has been further shaped by the expansion in the explorable history of debt problems which followed the increase in the volume, coverage and availability of debt statistics from, in particular, the *Debtor Reporting System* of the World Bank. Many of the early studies relied only on a relatively few cases of debt renegotiations for data input, while in the late 1980s and 1990s, much more data on debt reschedulings became readily available, as did more detailed data on payment arrears. Because the ultimate manifestation of a debt servicing problem occurs when a country requests its creditors for a debt renegotiation, a large part of the literature has focussed on the incidence of (or request for) debt reschedulings as a proxy measure for debt capacity problems.[11] However, debt problems may be manifest well ahead of debt reschedulings. In fact, a request for debt rescheduling will usually have been precipitated by the accumulation of payments arrears. Thus, looking at changes in the magnitude of payment arrears over a period of time, in conjunction with debt reschedulings,

[10]See Van Wijnbergen (1989) and Van Wijnbergen *et al.* (1992) for a discussion of the difference between the concepts of solvency and creditworthiness.

[11]The studies that have used debt rescheduling as a proxy measure are numerous, including the early work by Frank and Cline (1971), Dhonte (1975), Feder and Just (1977), Saini and Bates (1978), Feder *et al.* (1981), Taffler and Abassi (1984), Kharas (1984), McFadden *et al.* (1985), and Morgan (1986). More recent contributions include Kutty (1990), Savvides (1990), Rahnama-Moghadam and Samavati (1991), and Hajivassiliou (1993).

provides an opportunity for more nuanced assessments.[12]

Looking at the findings of the debt capacity studies, and even considering the differences in approaches and methods, there appears to be agreement as to the core factors that determine the incidence of debt capacity problems. It is beyond the scope of this review to provide a complete and detailed listing of all relevant factors, as they relate to the conceptual setup of each individual study. They include, however, the familiar debt burden indicators (such as the debt and debt service to export ratios), other balance-of-payments indicators (e.g. various current account and reserve ratios), general development indicators (e.g. GDP growth rates), as well as other economic and political indicators (including the rate of growth of the money supply, the inflation rate, the share of exports and domestic investment in GDP, and different measures of political organization and stability). In addition to these general results, some studies have found evidence that debt capacity problems in low-income countries (notably in sub-Saharan Africa) are also determined by structural factors emerging from a higher level of import and agricultural dependence (Taiwo, 1991; Odedokun, 1995, 1993) and also by fiscal distress (Ngassam, 1991).

It follows from the above that the indicator approach has been firmly established as the main vehicle of traditional debt capacity analysis. The approach is based on relating observed debt servicing problems, not development problems, to a broad range of aggregate macroeconomic (and other) indicators, of which, incidentally, only a few are integrated in the HIPC debt relief scheme.

Policy Implications. The insights derived from the standard approach to debt capacity, in particular those that relate to the balance-of-payments, have (until recently) been pivotal in shaping the understanding of international policymakers with respect to the debt crisis. The nature of policy responses to the debt problems of developing countries bears testimony to this. The problem has been perceived as one of external insolvency (or, as initially thought by many, of illiquidity), and the key aggregate variables to monitor, and on which to focus for a solution, were conveniently provided by the indicators identified in the empirical literature; and

[12]In addition, in a context of commercial credit rationing, a number of studies have directly used the extent of the borrowers access to international capital markets as a proxy for creditworthiness, e.g. by looking at the supply of borrowing relative to total debt. References to this line of work include Lensink and Van Bergeijk (1991), Savvides (1990), Hajivassiliou (1987), and McFadden *et al.* (1985). In a similar credit rationing context, some studies have used a measure of the secondary debt market values as reflecting either past debt servicing difficulties or anticipation of future problems (Hajivassiliou, 1989; Alford and Lussier, 1993).

the data for these indicators were readily available from the annual statistical publications of such institutions as the World Bank and the IMF.

The international debt strategy that evolved in the 1980s and early 1990s thus had two principal components. The first, to which creditors attached primary importance, concerned the need for debtor countries to adjust the external sector of their economies so that a return to a solvent path could be effected. Conditional on adjustment performance, the second component, initially intended as a discrete supportive device, involved addressing immediate servicing problems through renegotiating problem debt in the creditor clubs in London and Paris, as well as mobilizing increased financial support through the facilities of the IMF and the World Bank and from the international donor/creditor community.[13] In a word, maintaining debt service became the objective, and balance-of-payments adjustment became the key.

Hence, with the objective of preserving debt service capacity, the stabilization component of the adjustment policy packages that were promoted and adopted, emphasized efforts to reduce or convert trade deficits. The aim was, in part to reduce the need for further external borrowing, and in part to free foreign exchange for debt service, and the vehicle of adjustment was usually the level of imports. The proposed mechanism for achieving this outcome rested on the suggestion of stabilization theory, as embraced by the IMF, that there exists a casual link between inflation and imports.[14]

[13] As we now know, because the problem was mainly one of insolvency, rescheduling of debt has become an recurrent, indeed a permanent feature of the debt strategy, as countries have had to come back time and again to the negotiation table. Also, the financing element has now changed from one of immediate financial support to one resembling a financial life-line.

[14] In simple terms, the argument runs as follows. By eliminating inflation through fiscal and monetary austerity, excessive imports will also be eliminated because of the contraction in aggregate demand. Only if wages are sticky will this lead to reductions in output, but the stabilization theory, as embraced by the IMF, does not attach primary attention to wage-price rigidities. In order to avoid that the correction of the external imbalance leads to output contraction, the IMF approach advocates the employment of exchange rate policies (i.e. devaluation), whereby, it is argued, prices in the tradable sector will become more attractive than in the non-tradable sector. A diversion of resources from the non-tradable to the tradable sector will thus take place which will improve the balance-of-payments and help solve the debt servicing problem ((see Tarp, 1993, chap. 3) for a critical discussion of stabilization theory and of the IMF policies based thereupon). While fiscal policy measures were thus part of the policy packages, they were primarily designed to accommodate the adjustment needs, as perceived by the IMF, at the level of the balance-of-payments. They were not as such designed to assure a long-term sustainable debt position of the public sector, as this would have required more detailed considerations of the effects of the rather sweeping expenditure cuts that were recommended for the future public debt servicing capacity. Also, the relative merit of across-the-board expenditure cuts would have had to be more closely analysed *vis-á-vis* the alternative of increased taxation.

To help turn around trade deficits, but also for other reasons of development policy, the structural part of the adjustment packages aimed at removing or alleviating distortions and bottlenecks in the tradables sector, thereby seeking to increase export earnings, and thus reducing trade deficits. Both the stabilization and structural reform part of the policy packages have in most cases encouraged devaluation of the home currency with a view to promoting the competitiveness of debtor countries, a policy which in fact may or may not have helped countries overcome the debt capacity problems (Rodrik, 1993). However, since the international debt strategy of the past has been cast in an aggregate context in which debt capacity was primarily understood as a balance-of-payments issue, the debt servicing problems at the level of the government budget have been relegated a subordinate role at best, and consistently overlooked at worst.

Fiscal Aspects of Debt Capacity. In the mid-1990s debt analysts began looking beyond the traditional balance-of-payments approach to debt capacity analysis, by adopting a fiscal approach. This shift in emphasis rested on the empirical observation that the bulk of poor country debt was (and is) a public sector liability. At the heart of the debt capacity of the public sector is what has become known as the 'internal transfer problem'. One early theoretical formulation of the fiscal problems involved in foreign debt is found in (Kharas, 1981c,b,a).

Kharas considered the problems facing a government engaged in foreign borrowing to finance public expenditures, and which is constrained in its ability to collect revenue to service the acquired debt. If the government uses most of the borrowed funds for investments in such areas as infrastructure, education, health services, etc., the sustainable level of debt that the government can take on will depend, not only on the relationship between the marginal social return on these investments and the marginal cost of borrowing, but also on the governments ability to appropriate sufficient domestic resources (through more tax revenue) for debt service. The fiscal source of debt service problems is thus evident if taxation is not expanded commensurately with maturing public debt service obligations. A crucial point to emerge from this line of argument, and one that departs from traditional debt capacity analysis, is that the link between debt service and government taxation makes it possible for debt problems to occur even if all inflows of foreign resources are used for investment, and if the marginal product of capital is greater than the real rate of interest.

Later Reisen and Von Trotsenburg (1988) empirically analysed the internal transfer problem in the wider context of the theory of international transfers. They uncovered that the fiscal transfer problem had been one of the main obstacles to a return to international creditworthiness for most of the major (commercial)

debtors in the first half of the 1980s. This result suggested that the fiscal burden of debt exacerbated debt capacity problems and helped explain why earlier projections, by e.g. Cline (1983), of the anticipated return to creditworthiness could not be realized, despite achievement of projected improvements in industrial country growth and reductions in LIBOR.

With respect to the indebted low-income countries in sub-Saharan Africa, a recent study by Hjertholm (1997) similarly found that fiscal debt burden indicators played a significant role in explaining the poor debt servicing performance of a large number of sub-Saharan African countries. Analysis of the fiscal dimension of foreign debt in developing countries can also be found in Bevilaqua (1994) and Dittus (1989). Such contributions together suggest that the issue of debt service capacity cannot be separated from the issue of the government budget constraint. The inclusion of a fiscal target in the HIPC debt initiative is thus a reflection of a legitimate concern for the fiscal sustainability of poor country debt. It is much less clear, however, how the sustainability target of 280 percent (for the public debt to revenue ratio) and the attached conditions precisely came about (see below).

3.2. The Development Perspective

Empirical evidence suggests a relatively strong statistical relationship between high debt burdens and poor economic performance, such as low growth, investment and human development.[15] A main channel for these adverse effects of large debt burdens are fiscal effects, of which two are particularly important: (i) cash-flow effects arising from reduced public expenditures, and (ii) disincentive effects associated with a large debt overhang.

Cash-Flow Effects. Public expenditures may crowd-in private investment, especially where the latter is impeded by structural bottlenecks such as weak infrastructure (e.g. Taylor, 1993, 1983; Díaz-Alejandro, 1981). The generally poor state of infrastructural, educational and health facilities in low-income countries therefore provides considerable scope for realizing the potential positive externalities from government expenditures (e.g. Hadjimichael and Ghura, 1995; Hadjimichael *et al.*, 1995). But these opportunities will be missed, and so economic growth foregone, if expenditures are squeezed by public debt service, which empirical evidence suggests has been the case in sub-Saharan African countries (e.g. Fielding, 1997; Gallagher, 1994; Sahn, 1992, 1990).

[15]See, e.g. Cohen (1996), Ojo and Oshikoya (1995), Oshikoya (1994) and Greene and Villanueva (1990).

A closely related cash-flow problem associated with public debt service is import compression, which can occur for two reasons (Ndulu, 1991). First, if the ability of the economy to substitute between imported and home produced capital goods is limited, a cut in capital goods imports will lead to a decline in investments and growth.[16] Second, following Hemphill (1974) and Moran (1988), import compression can occur in cases where import volumes are determined by import capacity rather than relative prices. Clearly the magnitude of debt service matters for import capacity in such instances. Import compression can occur both at the balance-of-payments level and at the budgetary level (through the effects of public debt service on the import-content of government expenditures). Reductions in the import capacity of the government, as a result of debt service, can thus reduce government investment activity, whereby the complementarity effects mentioned above are lost. That such cash-flow effects have indeed been at work in indebted low-income countries is confirmed (for 23 sub-Saharan African countries) in the study by Hjertholm (1997).

Disincentive Effects. In addition to these direct effects from reduced public investment and lower imports, a high debt burden may undermine economic performance on account of the debt overhang. Debt overhang effects may be classified in two ways: (i) the 'narrow' approach focussing on tax disincentives, and (ii) the 'broad' approach related to macroeconomic instability. The fundamental notion of the narrow debt overhang theory is that the future debt service burden of a country will weigh heavily on the increase in the country's future economic output, of which a large part will be expected to have to go to foreign creditors (through higher taxes). Hence there will be a tax on investment returns which will discourage investors.[17]

Besides the possibility of disincentives working through taxation, there may be further disincentives through general macroeconomic instability which is seen as particularly bad for private investment [18] A public debt overhang can affect macroeconomic stability through several channels: (i) an increase in the fiscal deficit, (ii) exchange rate depreciation, (iii) monetary expansion and inflation from monetising debt service obligations, and (iv) recourse to exceptional financing (such

[16]Since some substitution away from imports may take place, the decline in investment will probably be proportionally less than the decline in imports. And yet, the remarkable stability of the relationship between real capital imports and real investments observed in low-income countries in the 1980s, suggests that the fixed proportional relationship is not that far off, and the imperfect substitution phenomenon is indeed partly responsible for the import compression observed in these countries.

[17]For a theoretical presentation of this idea, see Borensztein (1990).

[18]See Hjertholm (1997) for an elaboration of the adverse effects that may result.

as payments arrears and debt rescheduling), which tends to maintain uncertainty about the future debt servicing profile of the public sector. Public debt-induced fluctuations in such macro variables as the inflation rate, exchange rates, and exceptional financing may thus signal fiscal distress and an inadequate ability on the part of the government to control fiscal events. Such signals may in turn heighten investor uncertainty about the future direction of the macroeconomy and thus reduce the incentive to invest. In sum, the broad debt overhang hypothesis asserts, and is supported by available evidence, that one or more of the macro stability indicators discussed are likely to capture part of the investment disincentives of a large public debt burden.[19]

4. History of Indicators of Debt-Distress

The previous section presented the theoretical and empirical underpinnings of the concept of debt sustainability. The review showed that a sustainable debt position requires an adequate capacity to service a foreign debt (so that actual and scheduled payments are equalized) and that the burden of debt is low enough so as to ensure that resource constraints and disincentives are not introduced *vis-á-vis* investment activity. Neither aspects can be excluded from assessments of sustainability. With this backdrop, we now turn to the historical origins of the World Bank's aggregate indicators of debt-distress.

4.1. *World Debt Tables* Classification of Debtor Countries

Origins: World Debt Tables 1989-90. The story begins in 1989, when the World Bank published its 1989-90 edition of *World Debt Tables* (WDT), i.e. the Bank's annual report on debt and external finance in developing countries (since 1997, the report is called *Global Development Finance*, GDF). Here, for the first time, the Bank attempted to classify debtor countries according to the depth of their debt problems. Previously, the summary tables of the WDT had only included debt data for a number of geographical groups, two analytical groups (namely 'oil exporters' and 'middle-income oil importers') and the group of 17 'highly indebted

[19]The study by Hjertholm (1997) for 20 sub-Saharan African countries, while not generating strong evidence for the narrow debt overhang hypothesis, showed clear evidence of the broad hypothesis in that public debt burdens had several (indirect) effects that were transmitted through macroeconomic variables, such as the inflation rate, exchange rates and exceptional financing.

countries' (HICs), also known as the 'Baker 17 countries'.[20] Realizing that "debt burdens varies across developing countries," the *WDT 1989-90* asserted that while foreign debt did "not place stress" on some countries, for others "the burden is so large that it hampers their efforts to pursue a sensible, growth-oriented policy" (p. 50).

Following the implicit logic of this assertion, the aim of the new system of classification was thus to provide a procedure for singling out those countries were the debt burden posed a problem for economic growth, i.e. for development. To the outside observer, it would therefore appear that the new system would be driven by a concern for the development implications of the debt burden. Though this may well have been the intention (at least on the part the report team), the method adopted in the report was not based on linking the debt burden to measures of economic performance, but on linking the debt burden to debt servicing performance, which is a different (though related) matter. The classification system presented in the *WDT 1989-90* adopted the indicator approach, as embedded in the traditional debt capacity literature: the countries singled out were *not* those were the debt burden adversely affected economic development, but those were the debt burden adversely affected debt servicing performance. So, at the outset, the WDT exercise only dealt with *one* aspects of debt sustainability.

Seeking to diversify the topology of debtors by evaluating their debt service capacity problems, the *WDT 1989-90* went on to consider the relevant debt burden indicators and their relationship with the problem at hand, namely the deteriorating debt service performance of debtor countries. In order to avoid some of the problems inherent in using a single debt burden indicator, the report decided on using four indicators. These were:

- the ratio of debt to GNP,
- the ratio of debt to exports,
- the ratio of (next year) scheduled debt service to exports, and

[20] September 1985, spurred by the unsolved debt problems of Mexico and other countries with heavy commercial debt burdens, James Baker, the newly appointed US Treasury Secretary, put forward a plan which aimed at "broader attack on the debt problem". The plan involved 17 highly indebted middle-income countries (Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Côte d'Ivoire, Ecuador, Jamaica, Mexico, Morocco, Peru, Philippines, Uruguay, Venezuela, former Yugoslavia, and Nigeria, which only later become a low-income country), later known as Baker 17 countries. Largely unsuccessful, the Baker plan was reformulated in 1989 as the Brady plan, named after (then) US Treasury Secretary Nicholas Brady, and thereafter met with considerable more success in terms of solving the commercial debt crisis of middle-income countries Cline (1989).

- the ratio of scheduled interest to exports.

The ratios to exports relate the debt burden to the availability of foreign exchange earnings of the economy, while the ratio to GNP relates the debt burden to the broadest measure of the income-generating ability of the economy. To be classified as a debt-burdened country, the value of three of these ratios had to be greater than "empirically observed critical values". The reason for requiring that three of four ratios have critical values followed from experiencing sometimes anomalously low values for one ratio even though the country in question was obviously having trouble servicing its debt. To avoid excluding such cases where a seriously debt-distressed country is excluded, three critical values must therefore be observed. Debtor countries were subsequently classified into the following four groups:[21]

- Severely indebted low-income countries (SILICs)
- Severely indebted middle-income countries (SIMICs)
- Moderately indebted low-income countries (MILICs)
- Moderately indebted middle-income countries (SIMICs)

But what was meant by "empirically observed critical values"? These critical values of the indicators were based on information from the April 1989 edition of *World Economic Outlook* (IMF, 1989). The WEO regularly publishes debt data for a sub-group of net debtor countries "with recent debt-servicing difficulties". This analytical group includes debtor countries (as many as 73 reported in April 1989) which had recently incurred payments arrears or entered official or commercial bank debt rescheduling agreements during a specified three-year period (in this case during 1985-87). The IMF used information on such occurrences from the Fund's *Annual Report on Exchange Arrangements and Exchange Restrictions*.[22] *WDT 1989-90* applied the 1988 unweighted average value of each of the four indicators for the 73 problem countries as the critical values. The critical values were (critical values for SIMICs in brackets):

[21]Low-income countries were those in which 1987 GNP per capita was less than US dollars 480, and middle-income countries were those in which 1987 GNP per capita was higher US dollars 480 but less than US dollars 6,000.

[22]Upon consulting the relevant editions of the said IMF publication, the author found that only countries that had accumulated payments arrears were clearly reported (there was 64 of them). As regards countries that rescheduled official or commercial debt, only the total number of countries having done so were reported, not the individual countries. The remaining nine countries (73 less 64) that rescheduled without having accumulated arrears during 1985-87 could thus not be identified from this source, although this appears to have been possible in 1989. Instead information on rescheduling countries was obtained from editions of *World Debt*

- Debt to GNP ratio: 50 percent (for SIMICs: 30-50 percent),
- Debt to exports ratio: 275 percent (for SIMICs: 165-275 percent),
- Scheduled debt service to exports ratio: 30 percent (for SIMICs: 18-30 percent), and
- Scheduled interest to exports ratio: 20 percent (for SIMICs: 12-20 percent).

The notion was that countries could not avoid debt servicing difficulties if these indicators were allowed to rise above these critical levels, since recent history had shown that they had not been able to do so. As noted, if values (for poor countries) were above critical values for three of these indicators, the country was classified as a 'severely indebted low-income country' (a SILIC). If a country was not a SILIC, but at least three of the observed values exceeded 60 percent of the critical values, then it was classified as a 'moderately indebted low-income country' (a MILIC). In *WDT 1989-90* this classification produced 27 SILICs (24 in sub-Saharan Africa, plus Vietnam and Myanmar in Asia and Guyana in Latin America). Nine countries were identified as moderately indebted low-income countries, including Uganda which, although having a debt to export ratio above 700 percent and scheduled debt service payments (mainly principal) amounting to nearly half of exports, had low interest payments and a relatively low debt to GNP ratio. A further 19 countries were identified as SIMICs, including later HIPCs like Bolivia, Honduras and Nicaragua.

Acknowledging that this procedure could not be expected to provide a perfect identification of debt-distressed countries, the report conducted an informal sensitivity analysis, which did not, however, lead to any substantial shifting of countries among the debtor categories. If, for example, the critical values were lowered with 10 percent, only three countries (Ethiopia, Indonesia and Yemen) would move to the SILIC group. A 10 percent lowering of the critical value of the debt service ratio may have captured many of the borderline cases, if there had been any (notice that most of the 73 problem countries had scheduled ratios above 20 percent anyway). This is different for the debt to export ratio, since lowering the critical value by 10 percent, from 275 to 265 percent, would not have made much of a difference, since there were a lot less countries below than above the 265-275 range anyway.

Tables, but only seven additional countries could be identified, thus arriving at a total of 71 countries. Curiously enough, however, as many as 12 countries were identified in WDT as having accumulated payments arrears at one point in time during 1985-87, but which were not reported in the IMF publication as having experienced debt servicing difficulties. What accounts for this discrepancy is not clear.

Be that as it may, of particular interest for the current discussion on the HIPC sustainability targets, is that the report staff were quite explicit in stressing the informal 'rule-of-thump' nature of the new classification system. Stating (pp. 50-51) that "the methodology used here should simply be taken as one of a set of tools for making informed judgements in identifying countries with heavy debt burdens," the report went on to assert that, given the static nature of the indicators, the tool "should be used in conjunction with data on other economic variables and projections pertaining specifically to the country". The "projected trend [of the indicators] would [not] be a determinant of the pervasiveness or depth of debt problems". The report finally noted that:

> *The methodology used here is not useful in identifying the degree to which debt and debt service reduction increases growth and adjustment prospects in one country relative to another.*

Such cautionary statements may, of course, be interpreted in several ways, but it is hardly unfair to perceive them as reflecting the view that high debt burdens are a problem, not only in terms of debt service capacity, but also in terms of their wider development implications.[23]

In passing, it is interesting to note that the international donor community, when it launched the *Special Programme of Assistance* (SPA) for sub-Saharan Africa in the late eighties, did exactly what the *WDT 1989-90* warned against. Besides being poor and pursuing policy reforms, the eligibility criteria for SPA assistance was that countries had to be debt-distressed, and the approach adopted for such assessments was based on the indicator approach as embraced by WDT, or rather part of it, since only the critical value of 30 percent for the debt service ratio was used as a benchmark for assistance. On this basis, it is doubtful whether the SPA programme originally succeeded in reaching all debt-distressed countries.

The Net Present Value of Debt: World Debt Tables 1992-93. In 1992, with the publication of the *WDT 1992-93*, the World Bank in a certain respect considerably refined the classification system of previous editions. This followed the

[23]It was also noted that since the indicators presented the debt situation in a particular reference year, it may not provide a representative picture. A temporary rise, for example, in export earnings will lower the debt to export ratio without having increased long-term solvency. One way of correcting for this was to use a three-year average rather than a single-year value, and this was indeed done in the 1991-92 and subsequent editions of WDT (incidentally, the WDT edition in-between (1990-91), did not develop the classification system any further, indeed it wasn't even mentioned, although the classification results of the previous year was re-reported (with minor alterations).

introduction of the net present value (NPV) of debt burdens as a basis for classifying debtor countries. Since debt indicators based on the nominal value of debt and debt service does not adequately reflect a country's true solvency position, they do not provide a true picture of debt service capacity, especially in the longer-term perspective. This is because no account is taken of the term structure and the concessionality mix that characterizes developing country debt, and yet this is of critical importance for the actual cash-flow burden of the debt.[24] In order to account for this deficiency, the *WDT 1992-93* classification system was based on the present value of scheduled debt service payments, using the interest rates charged by OECD countries for officially-supported export credits as discount rates.[25] Whether the present value is higher or lower than the nominal value of the debt depends on the interest rates of loans and the discount rate (see *WDT 1992-93* (p. 127-128) for details). Usually the present value of poor country debt is lower than its nominal value, since interest rates are usually low and fixed.

Two NPV debt burden indicators were used by the *WDT 1992-93* to classify debtor countries: NPV debt service to GNP ratio and the NPV debt service to exports ratio.[26] The critical values chosen were the "1989-91 averages of the mean ratios for the countries identified in *World Debt Tables 1991-92* as severely and moderately indebted: a PV-to-GNP ratio of 80 percent and a PV-to-exports ratio of 220 percent" (p. 128). As noted, because of the high grant element of poor country debt, the present value of debt of these countries is usually significantly lower that its nominal value. If this is case, it seems curious that the NPV debt to GNP critical value is set *higher* (80 percent) than the nominal critical value (50 percent) used in earlier classifications.

A country was classified as a SILIC (or SIMIC, if middle-income) if either one of the ratios were above the critical values, and a MILIC (or SIMIC, if middle-income) if one of the ratios exceeded 60 percent of the critical values. The application of the NPV method yielded a similar number of SILICs as in previous editions (27). The customary sensitivity analysis, however, though taken to affirm

[24]For instance, a country receiving a large amount of concessional (i.e. soft) loans will experience much less difficulty in subsequently servicing its debt than a similar country with the same loan amount contracted on commercial (i.e. hard) terms. The nominal debt stock indicators could be similar in the two cases, but the severity of the debt service burden are very different (see Chaudhuri and Zhu (1996) for a more detailed discussion of nominal versus present value debt analysis).

[25]These rates are seen as representing, on average, the most favourable term of fixed-rate, non-concessional debt developing countries are able to obtain in international markets.

[26]The inclusion of the interest to exports ratio, used in previous editions as a measure of the cost of using externally-borrowed resources under varying degrees of concessionality, was discontinued since this dimension was captured by using the present value of debt (i.e. the impact of the rate of interest is accounted for).

that the method was "relatively robust to the choice of critical values", nevertheless showed that a 5 percent lowering of critical values would add another ten countries to the SILIC group. Curiously, the sensitivity analysis did not try a 10 percent lowering of critical values (as was done in previous editions), so the extra ten SILIC countries must be regarded as a minimum addition.

4.2. Methodological Issues

Determining Critical Values. Despite the immediate evaluative usefulness of the original WDT classification system, the use of average indicators to capture the debt servicing problems of a large number of countries with dissimilar economies raises some methodological questions relating to the procedure of determining critical values. As noted earlier these values can be interpreted as switching values, above which countries (on average) turn from performing to non-performing debtors in debt service terms. Implicit in this notion is the assumption that there exists a universal and time-invariant set of switching values (or at least a narrow range of values) which is applicable to all debtor countries at all times. But this is a dubious assumption. For one thing, universality is compromised by the presence of extreme observations (of which there were quite few among the 73 problem countries used as reference group) in the calculation of switching values. These extreme observation (e.g. debt to export ratios of 1000 percent and even higher) tend to raise the average value which is used as the switching value, but without any concurrent deterioration in debt servicing performance having been observed.

It must be remembered that the 73 countries reported by the WEO were identified as problem debtors because they had rescheduled or accumulated payments arrears regardless of the *size* of the amounts involved. This meant that no link was established between the size of the debt burden indicator and the severity of debt servicing problems. For instance, if the debt to export ratios of Sudan, Guinea-Bissau, Mozambique, Somalia and Nicaragua (all above 1000 percent), were to have been (hypothetically) cut in half, they would without doubt still have had major debt service problems (thus would still have been on the WEO problem list), but the average debt to export ratio would have been considerably lower, and so would the (critical) switching value. The point is that the adopted switching values, as they are reported in *WDT 1989-90*, did not account for the presence of countries with abnormal debt situations.

This raises the question of whether the *WDT 1989-90* was justified in simply using the 1988 *unweighted average* as a summary switching value. What should

have been done was to first look at the distribution of the 73 observation (i.e. combinations of country and indicator value) for each of the four indicators. If the distribution is non-normal, because of extreme values, considerations as to the appropriate summary indicator would be warranted. To see if this was the case, data for the debt to export ratio of 63 of the problem countries (for which data could be found) listed in the WEO were examined (Table 1). The number of countries in each interval is given, to see whether the distribution is normal or skewed in one way or other. It seems that it is, with a right-hand tail of several high values above average. Using an unweighted average as summary indicator in this case does certainly not appear to be the most appropriate. There are several ways (none of them perfect though) to remedy the influence of the abnormal cases. A weighted average could be uses (based e.g. on GNP values). The median value could also have been used. Or the extreme observations (e.g. the five aforementioned countries) could have been cleansed from the sample. In any case, while acknowledging the trade-off between operationality and precision, it seems that some considerations about the appropriate summary indicator should have been included in the WDT exercise.

Table 1: Distribution of Debt/Export Ratios, 1988
(63 WEO problem countries. No. of countries in each interval)

0-100	*100-200*	*200-300*	*300-500*	*500-1000*	*1000-1500*	*1500-2000*	*above 2000*
4	10	13	18	13	1	1	3

Source: WDT 1989-90.

The other problem, that of time-invariance refers to the use of a specified time-period (1985-87) as the genesis of debt servicing problems. Many of the problem countries listed were also problem countries in the years prior to the reference years, with indicator values sometime far below those of 1988 (on this, see also Verhagen, 1997). The point here is that the 'true' switching values may not coincide with those accidentally observed in 1988.

To sum up, since the switching values adopted in *WDT 1989-90* may have been set to high, in part due to the influence of abnormal debt burdens, and in part due to having been calculated on the basis of an arbitrarily selected reference year, it may be doubted whether they are appropriate approximations of the 'true' switching values governing the debt servicing performance of debtor countries. Moreover, given the whole range of explanatory variables determining debt service performance (as discussed in section 3), it may be doubted whether all relevant information determining debt service performance is contained in the four

indicators used, and it is certainly debatable whether the difference in the true switching values among countries could lie within the (+/-) 10 percent boundaries suggested by the sensitivity analysis.[27]

Methodological Problems Unresolved. Despite the justified introduction of the net present value of debt (in *WDT 1992-93*), and an initial explicit acknowledgment of the still unattended fiscal aspects of the debt capacity problem, the method of determining critical values remained a weak spot. What was done in *WDT 1992-93*) was to lump together all countries classified as severely and moderately indebted in *WDT 1991-92*, calculate for each countries and each NPV ratio the values for 1989, 1990 and 1991, and then adopt as the critical switching value the three-year average of the country average for each ratio. Apart from losing universality, due to the continued inclusion in the summary indicator (i.e. the unweighted average) of extreme debt burdens (which were still in evidence, in spite of the NPV approach), the critical values adopted lost further credibility due to the legacy of past imprecisions.[28]

The debtor classification from which the new NPV system was created was, as argued above, based on linking 1988 debt indicators to 1985-87 debt servicing problems, a procedure which in the first place is unlikely to have generated 'true' switching values. Unfortunately this somewhat mechanistic approach to debt capacity analysis appears to also underlie successive editions of *World Debt Tables/Global Development Finance*, and also to underlie the debt sustainability targets guiding HIPC assistance.[29] The assertion of a World Bank staff working paper World Bank (1995a) prepared in the initial phase of the design of the HIPC initaive that "empirical evidence supports the view that a present value of outstanding debt above 220 percent of exports is so high that the country could not meet principal repayments, as they fall due, without undue compression of im-

[27]In passing, an alternative (and more direct) way of classifying countries would be to simply group (if IMF data allowed) the 73 countries on the WEO list according to the severity of debt servicing problems. For example, SILICs could be defined as those countries that rescheduled and/or had arrears in excess of, say, 20 percent of total debt, MILICs could be those with arrears between 10-20 percent of total debt, and so on.

[28]The NPV debt to export ratios of the five most indebted SILICs were (1990-92 average): Nicaragua (2798.5 percent), Sudan (2727.1 percent), Somalia (2557.5 percent), Mozambique (1156.9 percent) and Guinea-Bissau (916.6 percent) (Ahmed *et al.*, 1994).

[29]For example the *WDT 1993-94*, which reported 29 SILICs (no sensitivity analysis carried out in this or later editions), the *WDT 1994-95*, which reported 32 SILICs, the *WDT 1996*, which reported 35 SILICs, the *GDF 1997*, which reported 37 SILCs, and the *GDF 98*, which reported 36 SILICs. In *GDF 98*, in order to account for debt relief in 1996–97, the debt to GNP and export ratios used were no longer based on three-year average ratios, as done before, but by holding NPV of debt 1996 against 1994–96 averages of GDP and exports.

ports, or else an expansion of exports beyond what seems feasible," could hardly refer to the type of analysis just discussed.

5. HIPC Application of Sustainability Targets

In case of the HIPC initiative, the debt relief effort of creditors aims to, indeed is limited to, bringing down three selected debt burden indicators to their perceived switching values. Thus the debt to export ratio in NPV terms is to be brought down to the 200-250 percent range (depending on a number of vulnerability factors), the debt service to export ratio in NPV terms down to the 20-25 percent range (again depending) and the debt to fiscal revenue ratio in NPV terms down to 280 percent. Since an unsustainable debt is said to be in evidence if just one of these switching values are not reached, 'perfect' sustainability requires that all three targets are satisfied.

5.1. Export Targets

The rationale for adopting the (200-250 and 20-25 percent) target values for the export ratios rested partly on the successive WDT exercises and in part on the findings of a number of other empirical investigations (notably Cohen, 1996; Underwood, 1990) which were interpreted as being largely supportive of targets adopted.[30] Before considering the results of the supportive evidence, it is worth noticing at this point the absence of the debt to GNP (or GDP) ratio among the targets adopted. As mentioned earlier, the GNP ratio relates the debt burden to the broadest measure of the income-generating ability of the economy, and the ratio has been used for numerous years in the WDT/GDF as part of the debtor classification system. However, in 1994, a World Bank publication on poor country debt World Bank (1994) signalled the demise of the debt to GNP ratio on grounds that its usefulness was compromised by the influence of "erratic changes arising from real exchange rate changes" in SILIC countries. However, similar problems relate to the export ratios, since export earnings may fluctuate widely in SILIC countries. This problem was accounted for in the WDT exercise by using three-year averages of the debt to export ratio, and in the HIPC context, export fluctuation are (to some extent) accommodated by including exports among the risk factors. It is not clear why exchange rate-induced fluctuations in GNP could not have been dealt with in a similar manner.

[30]The adoption of the fiscal target is another story, as discussed below.

As noted, a couple of studies have been frequently cited in the HIPC context (e.g. in Claessens *et al.*, 1996; Chaudhuri and Zhu, 1996) as lending empirical support to the notion of a sustainability threshold of 200-250 percent for the NPV debt to export ratio as being "about right". A note by Underwood (1990) attempted to identify the upper bound of the value of the debt to export ratio (adjusted for the grant element) at which debtor countries would still be considered sustainable and creditworthy. This was done by grouping 111 debtor countries into those that had rescheduled since 1982 or had accumulated extensive payments arrears (not defined) during 1980-87 (56 countries) and those which had had no debt service problems (55 countries). With few exceptions, all countries without debt servicing problems had (adjusted) debt to export ratios below 200 percent, as correctly reported by Claessens *el al.* It is difficult, however, to go along with the subsequent assertion by Claessens *et al.* that "most countries with a history of rescheduling or interest arrears had debt-to-exports ratios above 200 percent".

Inspecting the Underwood data reveals that as many as 17 of 56 problem countries in 1987 had debt to export ratios *below* 200 percent, a fact that prompted Underwood to argue that the 200 percent should be considered as a necessary but *not sufficient* condition for sustainability. Moreover, counting the number of problem countries with below 200 percent debt to export ratios for the other years yielded some interesting numbers (see Table 2). As we go back in time, the number of countries with 'extensive' debt servicing problems below the 200 percent threshold increases markedly. In all years during 1980-84 over half the countries had 'extensive' debt servicing problems even though their debt burden was lower than what was considered sustainable. This suggests that the Underwood study proposed a 200 percent debt to export ratio only as an upper bound (but it is used as a lower bound in the HIPC context). Reflecting on the reason as to why so many countries with below 200 percent debt to export ratios could not avoid arrears and rescheduling, Underwood argued that the fiscal burden of debt had been the binding constraint.

Table 2: No. of countries with below 200% debt to export ratio, 1980-87.
(Percent share of total number of problem countries in brackets)

1980	*1981*	*1982*	*1983*	*1984*	*1985*	*1986*	*1987*
46	37	31	31	32	20	20	17
(82.1)	(66.1)	(55.4)	(55.4)	(57.1)	(35.7)	(35.7)	(30.4)

Source: Underwood (1990).

Another, more recent, study by Cohen (1996) for sub-Saharan African countries

had a similar aim. Cohen suggested a number of ways to assess the sustainability of African debt. For instance, sustainability can be roughly assessed by determining the share b of a country's national resources that would be required for debt servicing if the debt to export ratio were to be stabilized. If D/X is the debt to export ratio, r the rate of interest, and n the rate of export growth, the share b would be determined by $(r\text{-}n)(Dt/Xt)$ for any given period t.[31] If the country is willing (and capable) of paying more than b, the debt to export ratio will fall, leading eventually to a sustainable debt position, while repayments below b would lead to an indefinite rise in the debt to export ratio, an unsustainable debt position *per se*.

Since the upper value of the share b can be theoretically interpreted as the cost of debt repudiation, that is, the share of national resources that would be foregone in the event that the country was to "go to war with its creditors", its value can be indirectly inferred by reference to countries that have been pushed to the 'limit' by their creditors. Using as this limit the situation where countries begin to reschedule their debts, the associated value of the debt to exports ratio (D/X) indicates the sustainability threshold, and can then be used to calculate the value of b (given information about interest rates and export growth). Calculating these values for sub-Saharan SILICs during the 1985-93 period reveals that an average of 12.8 percent of African resources would be required to stabilize the debt to export ratio (compared with Mexico's average transfer on only 4.7 percent in that country's crisis years of 1984-89).

An alternative method was to conduct a Laffer-style analysis, based on 'reconstructed' secondary market prices for a large number of African countries. Since only few sub-Saharan African countries are actually quoted on secondary markets, Cohen econometrically constructed the price value of each country's debt, as if it had been quoted on grounds similar to other debtors in the market. Calculating also the threshold price at which the elasticity of the secondary price with respect to the debt was (in absolute value) smaller than unity (0.31 cents to the dollar in African case), it was possible to compare the actual (though 'fictitious') price quotations of each sub-Saharan debtor with the threshold price to arrive at the number of countries on the 'wrong' side of the debt Laffer curve. The study showed that in 1988 and 1992, about a third of sub-Saharan African countries had debt burdens that, had they been commercially quoted, would have invited pareto-improving debt reductions. Cohen then proceeded to calculate the debt to export ratio that would have brought the secondary market price up to, say, 0.75 cents to the dollar, and the *average* debt to export ratio for the African coun-

[31] Cohen uses the debt to GDP ratio as sustainability indicator, but this does not alter the results.

tries arrived at was 211 percent, suggesting that a sustainability target within the 200-250 percent range would be largely correct.

However, apart from the question of whether a 25 percent discount on African debt could be considered to reflect a wholly sustainable debt situation, the Cohen analysis remains problematic because its implicitly suggests that the average switching value of 211 percent for the debt to export ratio can be used as a universal threshold applicable to all countries. Yet, examining the Cohen data on the (implied) sustainable debt to export ratios of individual sub-Saharan African countries reveal very large variations indeed (Table 3).

Table 3: Sustainability of African Debt.
(Based on estimated secondary market prices for 1988 and 1992)

Sustainable debt to export (D/X) ratios for African countries (at 25% discount)

0-100%	*100-200%*	*200-300%*	*above 300%*	*above 400%*
Côte d'Ivoire	Benin	Burundi	Kenya	Burkina Faso
Guinea	Cameroon	Ghana	Zimbabwe	Mauritius
Madagascar	C.A.R.	Guinea Bissau		Rwanda
Niger	Chad	Malawi		
Nigeria	Gambia	Mozambique		
Senegal	Mali	Tanzania		
Togo	Mauritania	*African average*		
Zambia	Sierra Leone			
	Uganda			

Source: Cohen (1996).

Only a few of the 28 African countries examined conform to the notion of switching values in the range of 200-300 percent. Most of the countries could only become sustainable (defined by a 0.25 cents discount to the dollar) at below 200 percent debt to export ratios, and eight of these would have to get their debt to export ratios down below 100 percent. On the other hand, the data also shows that a number of countries could achieve sustainability at high values of the debt to export ratios. This finding, and those of the Underwood study, suggests that the differential treatment of debtor countries in the HIPC context within the 200-250 percent boundaries is not likely to adequately deal with the sustainability problem of quite a number of countries. Rather, adopting *country-specific* switching values as a analytical point of departure seems to be a more promising avenue of debt relief assessment.

5.2. The 'Fiscal Window'

The 280 Percent Threshold. As regards the fiscal dimension of the HIPC debt problem, the present procedure appears to be inadequate. Many have argued that the threshold of 280 percent is much to high. This may very well be so, but it may in fact also have been set too low for some countries. We don't really know, since the 280 percent-target *appears* not to have been generated from economic analysis of the problem at hand.[32] Despite the methodological flaws of the export related sustainability targets, they were at least based on analysing the relationship between debt indicators and debt servicing performance and, while imperfect, can be interpreted as switching values. The fiscal target cannot be interpreted as such; it does not tell us whether values below the target signifies countries that can be expected to avoid budget-related debt servicing problems in the future. For the fiscal target to be perceived (and employed) as a switching value, its value would have had to be determined in the same manner in which the aggregate debt sustainability targets were determined.

There is a further way to examine the consistency of the 280 target under the condition of a 20 percent tax rate. If these two ratios are combined we arrive at an approximate debt to GDP ratio of 56 percent (line 1 in Table 4), which is, as correctly pointed out by Eurodad (1998) near equivalent to the EMU convergence criteria of 60 percent.[33] In passing, this value differs by a wide margin from the sustainable level of 80 percent adopted earlier. In table 4, for sake of experiment, other combinations of the three indicators (the tax ratio (T/Y), the debt to revenue ratio (D/GR) and the approximate implied debt to GDP ratio ($\overline{D/Y}$) is presented in percentage terms.

Line 2 holds the $\overline{D/Y}$ ratio constant (since the present fiscal window, by perceiving the D/GR ratio of 280 percent as a 'true' switching value, implicitly 'sees' this value as a sustainable one) and sets D/GR at the lower target of 200 percent (currently discussed). The implied tax rate criteria (T/Y) then goes up to 28 percent. But assuming that it is inconceivable that the stipulated tax condition will be increased to this implied level, a lowering of the D/GR target to 200 percent will no longer be consistent with a sustainable $\overline{D/Y}$ ratio of 56 percent.

[32]This view is confirmed by a HIPC report (IMF and World Bank, 1997a), in which the staff in effect indicted the apparent politics of matter by dryly noting that is was "not aware of any firm analytical basis" for the 280 percent fiscal target.

[33]In fact, this is not exeactly right since the first indicator involves taxes while the other involves government revenue (tax and non-tax) and so is usually higher (though not necessarily by a lot in HIPC countries). The implied debt to GDP ratio should thus be interpreted as an approximation.

Table 4: Consistency of the Fiscal Target.
(Combinations of fiscal targets, tax ratios, and app. debt to GDP ratios, in percent)

Line	*Tax Ratio* T/Y	*Debt/Revenue Ratio* D/GR	*App. Debt/GDP Ratio* $\overline{D/Y}$
1	20	280	56
2	28	200	56
3	20	200	40
4	15	373	56
5	15	280	42
6	15	200	30

Rather, a 200 percent D/GR target with a 20 percent T/Y condition yields the lower sustainable $\overline{D/Y}$ ratio of 40 percent (line 3).

In a similar vein, if the $\overline{D/Y}$ ratio is again held constant and the stipulated tax rate is lowered to 15 percent (as has also been discussed), the implied D/GR target increases to 373 percent (line 4). Again, assuming that it is inconceivable that the stipulated D/GR target will be increased to this implied level, a lowering of the T/Y condition to 15 percent will no longer be consistent with a sustainable $\overline{D/Y}$ ratio of 56 percent. Rather, a (maintained) 280 percent D/GR target with a lowered 15 percent T/Y condition yields the lower sustainable $\overline{D/Y}$ ratio of 42 percent (line 5).

If both the D/GR target and the T/Y condition is lowered (to 200 and 15 percent, respectively), the implied sustainable $\overline{D/Y}$ ratio is only 30 percent, that is, considerably below the level currently seen through the fiscal window as sustainable. It appears that the combination of tax effort condition and a fiscal D/GR target delinked from 'true' fiscal switching values introduces some confusion as to the correct level of a sustainable debt to GDP, a consistency problem that would have been clearly in evidence if the a HIPC target for this ratio had been set at the outset. ratio. Since a sustainable debt to GDP ratio must also be defined by its switching value, it has to be made clear whether that value is 80, 56, 42, 40 or 30 percent.

The Twin-Conditions. Equally unsatisfying is the attached twin conditions that only very open economies with a very strong government tax effort are allowed to benefit from the fiscal window. There are several reasons for this. First, the 20 percent minimum tax rate looks suspiciously like a form of double-conditionality,

since improved tax collection is (usually) already part of the attached policy reforms. The reason for asking for policy reforms before extending debt relief is to ensure that the financial resources (whatever the amounts) freed up is put to the best possible use. So what is important is that the debtor country is seen as moving in the right direction in terms of the macro environment. Usually part of such policy reforms are attempts to increase the tax collecting ability of the government, as a basis for more sustainable fiscal policies. However, by (simultaneously) stipulating a minimum tax rate of 20 percent as a precondition for additional debt relief, such relief hinges, not only on policy reform, but on the *results* of such reforms.

Secondly, it is clear that not many HIPC countries are going to benefit from the fiscal window, since their tax effort is often well below the 20 percent threshold stipulated; indeed that is one of the reasons why they have a fiscal problem in the first place. In the *HIPC Decision Point Document* for Uganda, the tax effort of a sub-group of 24 HIPC countries was reported (IMF and World Bank, 1997b). The data showed that only two countries had tax revenue to GDP ratios on the safe side of the threshold, namely Guyana 31.6 percent) and Congo (24.8 percent), and with Nicaragua just making it with 20.3 percent. Four countries (Côte d'Ivoire, Honduras, Mauritania and Zambia) had tax ratios relatively close to the threshold (i.e. above 15 percent), while the remaining 17 countries had tax ratios below 15 percent, seven of them even below ten percent. So for many HIPC countries, despite severe fiscal debt burdens, even the most determined reform efforts in the area of taxation is not likely to bring them additional debt relief at the completion point on a account of the fiscal burden of debt.

This assertion follows from observing the wide differences between developing and developed countries in terms of the constraints on taxation. As noted by Tanzi and Blejer (1988), a number of tax constraining factors, be they political, structural, administrative or purely social, tend to be more inflexible and limiting in developing than in developed countries. Consequently, experience shows that it is very difficult to substantially raise the level of taxation in the short or medium term. Tanzi and Blejer reports from that experience that, unlike in industrial countries, no developing country had (until then) been able to raise the tax ratio by ten or twenty percentage points in a matter of one or two decades, or, for that matter, by just several percentage points in a few years. But this is precisely what is asked for in the HIPC context. Take the case of Niger, which has a severe fiscal debt burden (scheduled public sector debt service as a percent of government revenue in 1995 was 76 percent and amounted to 36 percent of government expenditures). If Niger were to be eligible for additional debt relief at the completion point (scheduled for 1999) through the fiscal window, a rise in the tax rate of 13.4

percentage points would be required in a matter of just four years, an enterprise likely to be out of reach for any developing country and many developed too.

Thirdly, there is the added complication that some HIPC countries, opting for the fiscal window, will be tempted to increase government revenue through a hasty rise in tax rates. This scenario may then contradict the tax advice usually given to developing countries about the criticality of expanding the tax base as the primary source of higher government revenue. This advice is based on the experience that higher tax rates, even if their initial values are relatively low, often act to discourage investment activity.

A case in point is Uganda, where the whole tax system was reformed in the early 1990s (*inter alia* by the establishment of the *Uganda Revenue Authority* (URA) in 1991). Concern with the adverse implications for private investment when tax rates increase when the tax base does not, prompted a World Bank country report to assert that domestic revenue in Uganda could only increase in a gradual manner (World Bank, 1995b). This suggest that broadening the tax base, which is an undertaking with a long gestation period, is the appropriate way to increase the revenue needed to sustain future fiscal policy. The short-term hunt for a 20 percent tax rate, in order to get to the fiscal window may (if the target rate is reached *before* the completion point) provide some additional debt relief, but this relief may come at the cost of a discouraged investment community. So the final development outcome of this amendment to the HIPC scheme is unsure for certain.

Fourthly, while it is widely recognized that the gap between external and fiscal sustainability may be larger in export dependent debtor countries, it is not clear why only very open countries (of which there are only a few in the HIPC group) should be recognized as having a fiscally unsustainable debt, since this may certainly also be in evidence in less export dependent countries (see also Underwood, 1990). As argued by Esquivel *et al.* (1998), the application of the *joint* tax-openness criteria tends to produce a undesired biassed treatment of HIPC countries. It does so by penalizing those countries that are undertaking a substantial tax effort since the implied target value of the debt to exports ratio (in NPV terms) tends to increase as the tax rate increases, and by rewarding countries that are highly export dependent since the implied target value of the debt to export ratio tends to fall as the export to GDP ratio rises.[34]

[34]Esquivel *et al.* shows this by calculating the mathematically implied debt to export ratio of various combinations of the export to GDP ratio and the tax to GDP ratio, under the modification of a 280 percent sustainability threshold of the debt to revenue ratio (thus, the implied debt to export ratio D/X is given by $2.8((T/Y)(X/Y))$, where T/Y is the tax ratio and X/Y is the export ratio.

So only highly open countries with a moderate tax effort are going to benefit from this amendment to the HIPC scheme, although it was intended (or so one would like to think) to deal with the fiscal aspect of the debt of all HIPC countries. Even if the tax criteria were to be lowered to 15 percent and the openness criteria to 30 percent, this would not change the fundamental flaw of the joint criteria, as indicated in Table 5 (calculated in the same way as is done in Esquivel *et al.*, but focussing on below-present-criteria combinations of the tax and export ratios). The best treatment would still be accorded to export dependent countries with a moderate (just-above-criteria) tax effort, clearly contradicting the rationale for the fiscal window. The numbers also show that the implied debt to export ratio rises above the present lower bound of the 200-250 target range at export to GDP ratios around 25-26 percent, below which a substantial number of HIPCs are located.

Table 5: Debt to Export Ratios Implied by the Fiscal Target.
(D/X given by $2.8((T/Y)(X/Y))$)

	X/Y=40	X/Y=38	X/Y=36	X/Y=34	X/Y=32	X/Y=30	X/Y=28	X/Y=26
T/Y=20	140	147	156	165	175	187	200	215
T/Y=18	126	133	140	148	158	168	180	194
T/Y=16	112	118	124	132	140	149	160	172
T/Y=14	98	103	109	115	123	131	140	151
T/Y=12	84	88	93	99	105	112	120	129
T/Y=10	70	74	78	82	88	93	100	108
T/Y=8	56	59	62	66	70	75	80	86
T/Y=6	42	44	47	49	53	56	60	65

Note: Proceduce adopted from Esquivel *et al.* (1998).

By way of experiment, it would be interesting to see the implied sustainability target for the debt to export ratio of HIPC countries under the assumption that the 280 percent sustainability target for the debt to revenue ratio was indeed a *bona fide* switching value, but without the tax-openness criteria attached. This is done in Table 6 for 24 HIPC countries for which data is available. The calculations show that the target debt to export ratio of most HIPCs (19 of the 24) would lie below the lower bound of the present 200-250 percent range, in fact below 150 percent for 16 countries, and below 100 percent for five countries (Chad, Guyana, Guinea, Madagascar and Mauritania). Three countries (Ethiopia, Uganda and Burkina Faso) would arrive at 'fiscally-corrected' targets within present boundaries, while two countries (Sierra Leone and Bolivia) would arrive at targets above present boundaries.

Table 6: Country Debt to Export Ratios Implied by the Fiscal Target, 1995.
(24 HIPCs ranked by size of D/X. Assuming no tax-openness conditions)

(D/X given by $2.8((T/Y)(X/Y))$)

Country	*Export Ratio* X/Y	*Tax Ratio* T/Y	*Debt/Export Ratio* D/X
Chad	29,7	7,3	68,8
Guyana	100,0	31,6	88,5
Guinea	21,7	7,3	94,1
Madagascar	23,3	8,2	98,4
Mauritania	50,5	17,9	99,2
Cameroon	25,9	9,3	100,7
Zambia	42,4	15,5	102,4
Honduras	43,3	16,5	106,7
Togo	34,4	13,3	108,2
Niger	16,8	6,6	109,8
Congo, Rep.	59,7	24,8	116,4
Côte d'Ivoire	41,1	17,5	119,2
Senegal	31,7	13,6	120,1
Benin	26,4	11,9	126,1
Mozambique	27,4	12,5	127,7
Mali	21,8	10,5	134,8
Guinea-Bissau	11,7	6,9	165,8
Nicaragua	33,9	20,3	167,7
Tanzania	20,5	13,1	178,9
Ethiopia	14,5	11,8	228,4
Uganda	11,8	9,8	233,0
Burkina Faso	13,0	10,9	234,4
Sierra Leone	12,1	11,0	255,0
Bolivia	20,2	19,5	270,2

Sources: World Bank (1998) and IMF and World Bank (1997b).

To sum up, as presently applied, the fiscal window seems too narrowly and inconsistently defined and is unlikely to adequately deal with the fiscal dimension of HICP debt. From the perspective of which countries gain most from this amendment, it would be more accurate to describe it as a 'openness window' rather than a 'fiscal window'. Creditor politics, not economics, seems to have been the principal leitmotif of this extension.

5.3. The Development Aspect

The sustainability targets adopted do not as yet contain sufficient information about the growth and development implications of the pursuit for a sustainable level of foreign debt. This remains a matter of judgement, pending country-studies that deal specifically with the investment and growth scenarios of different debt and financing paths. And yet, the notion of a sustainable debt is widely recognized as consisting of a restored debt servicing capacity (i.e. exit debt relief) as well as an uncompromised development process. This perspective is outwardly shared by the World Bank and the IMF.

For example, in a background paper prepared by the staffs of the Fund and the Bank, debt sustainability was perceived to be a situation were a country "is expected to be able to meet its current and future external obligations in full, without recourse to relief or rescheduling of debts or the accumulation of arrears, and without unduly compromising economic growth" (IMF and World Bank, 1996). But in practice, the overriding aim of using sustainability targets, as presently applied, is the restoration of debt service capacity. Indeed that was root problem from which these targets derived their analytical rationale. The analytical origins of the sustainability targets therefore tend to limit their use for adequate growth and development considerations, and it is difficult to see how the growth process of HIPC countries over the coming years can be systematically 'protected' in such an *ad hoc* context.

These concerns are further strengthened by the assumption of only relatively modest growth targets in the external financing projections underlying the debt sustainability analyses of HIPC countries. In the case of Uganda, for example, the *HIPC Decision Point Document* (IMF and World Bank, 1997b) assumed an annual average real GDP growth rate of seven percent during 1996/97–1998/99 and five percent thereafter. Such growth rates are of course not as such 'modest' by the usual standards of low-income countries, but the low starting point of these countries in terms of per capita GDP must be kept in mind. Given the growth targets stipulated, the external debt and financing path of Uganda will thus only

be consistent (*ceteris paribus*) with rise in per capita GDP from US dollars 280 in 1995/96 to US dollars 480 in the year 2015/16.

The employment of 'vulnerability factors' as the only way to differentiate the treatment of HIPC countries would be valid *if* the only aim was to improve debt servicing performance (though, as argued, it may be doubted whether the target boundaries adopted can encompass the influence of all these factors in each and every case). They include a number of risk factors which may upset projected trends in debt service and external financing, thus inhibiting the desired improvement in debt service performance.[35] However, in terms of evaluating the development dimension of future debt and financing paths, the vulnerability factors (as they are presently defined) fall short of facilitating adequate assessments. Not included among the risk factors are variables that relate more directly to economic performance, such as, for example, projections in the GDP growth rate and public and private investment ratios.

This shortcoming is regrettable, since such variables would offer an opportunity to assess whether a country striving for a sustainable debt position must do so at investment and growth levels below what is considered socially desirable. In case investment and growth levels were to be included, and then were to be considered too low, more ambitious target rates could then be adopted in the calculations of future financing needs that are part of the debt sustainability analyses. This would increase the gap between the sustainability target and the projected debt path, since future borrowing will increase. This in turn would require, either that the additional financing required is accommodated by donors, or that additional debt relief is forthcoming from creditors. In either case, a partly sustainable debt position would have been transformed into a wholly sustainable one, through the intervention of a development oriented donor/creditor community.

6. Summing Up and Concluding

The foregoing leads to the conclusion that the sustainability targets presently guiding HIPC debt relief assessments lacks a strong analytical basis. The particular nature of the underlying solvency theory made it necessary to adopt the debt indicator approach in order to determine the switching values of various debt burden indicators. This is what was done in the 1989-90 and subsequent editions

[35] They include measures of export diversity and sensitivity to export shortfalls, the underlying resource gap (i.e. the non-interest current account), the degree of aid dependence, the reserve position, the fiscal burden of debt (now subject to its own target), and the track record of policy reform (IMF and World Bank, 1996).

of the *World Debt Tables/Global Development Finance*, and this is how the HIPC targets should be interpreted. But since the switching values are based on average calculations, no account is taken of the fact that HIPC countries encounter debt servicing problems for a wide variety of reasons and at very different levels of foreign debt.

Considering the diversity of debt problems and economic circumstances, it would not be unjustified to expect that the 'true' switching value of the debt to export or revenue ratios could differ quite a lot from one country to another. However, implicit in the debt capacity analysis underlying the HIPC initiative, is a common switching value which is sought after. To some extent, of course, allowing a range of switching values to signify sustainability (200-250 and 20-25 percent for the debt and debt service ratios, respectively) is an attempt to remedy this deficiency. Yet, in the absence of more solid evidence, it is doubtful whether the 'true' switching values of each and every HIPC country can be found within the boundaries applied. The foregoing history of the analytical origins of these values would seem to support this doubt. Instead the adoption of country-specific targets is suggested as a possible way to tailor debt relief more accurately to country needs. Since some differential treatment is already accepted (by looking at risk factors), adopting country-specific switching values does not seem to be such a big step analytically speaking, except that technical obstacles and creditor politics may limit the immediate feasibility of such an amendment. But it shouldn't.

Lastly, the implications for domestic economic performance of the pursuit for a sustainable debt position remain a concern. It seems uncertain whether the immense development needs of the countries involved can be adequately accommodated within a sustainable debt path, as envisioned in the HIPC relief scheme.

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